Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	**)**	
	)	
Amendment of Parts 0, 1, 2, 15 and 18 of the	**)**	**ET Docket No. 15-170**
Commission's Rules Regarding	**)**	
Authorization of Radiofrequency	**)**	
Equipment	**)**	
	)	
Request for the Allowance of Optional	**)**	**RM-11673**
Electronic Labeling for Wireless Devices	**)**	
	)	

To: The Commission:

Reply Comments of Nickolaus E. Leggett, Certified Electronics Technician, Amateur Radio Operator (N3NL), GROL Licensee, Inventor, and Analyst Responding to the Comments of ARRL, the National Association for Amateur Radio

I am a certified electronics technician (iNARTE and ISCET) and an Extra Class amateur radio operator (call sign N3NL). I also hold an FCC General Radiotelephone Operator License with a Ship Radar Endorsement. I am an inventor holding three U.S. Patents. My latest patent is a wireless bus for digital devices and computers (U.S. Patent # 6,771,935). I have a Master of Arts degree in Political Science from the Johns Hopkins University.

I am one of the original petitioners for the establishment of the Low Power FM (LPFM) radio broadcasting service (RM-9208 July 7, 1997 subsequently included in MM Docket 99-25). I am also one of the petitioners in the docket to establish a low power radio service on the AM broadcast band (RM-11287). I have filed a total of well over 200 formal comments with the FCC over the years since the 1970s. I have filed comments with other Federal agencies as well including the USPTO, NASA, FAA, FERC, EPA, and the TSA.

Reply Comments

I support the comments of the ARRL in favor of clearly allowing licensed amateur radio operators to continue their historical practice of modifying existing commercially-made radio equipment so that it can be operated on amateur radio frequency allocations under the amateur radio regulations.

This use of modification of radio equipment has enabled many amateur radio operators to develop improvements to the equipment. These improvements have led to new innovations and inventions in radio and electronics technology.

In addition, amateurs are able to establish inexpensive ham radio stations by modifying surplus commercial radio gear. This allows them to have a station with better performance than it would otherwise have. There are many historical examples of this benefit such as the modification of military surplus equipment to produce quite low-cost amateur radio stations. Many amateur radio operators use this strategy to learn about electronics equipment and to get on the air despite their limited incomes. This is especially important since most young people today have very limited incomes.

Inventors

Many inventors learn about technology and think of their inventions by means of reverse engineering and modifying existing equipment. If inventors are blocked from working with existing modern equipment, then the numbers of new inventions will decline with resulting damage to the economy.

Inventors of RF transmitting equipment frequently are licensed radio amateurs who initially work with their inventions on the allocated amateur radio frequency bands. This path to

invention would be seriously impacted if amateur radio operators were blocked from modifying and working with commercial electronics equipment.

1998 Digital Millennium Copyright Act

A related problem is the current legal issue involving the 1998 Digital Millennium Copyright Act, where experimenters and inventors access to software-controlled devices is blocked by copyright holders. This issue has led to many people being blocked from modifying and working with equipment that they own.

The Commission should consider formally asking the U.S. Copyright Office to grant exemptions from these restrictions for amateur radio operators who want to service and/or modify electronics equipment. Otherwise, we could wind up in a situation where Copyright Office action or inaction could block amateur radio operators from working on software-controlled electronics.

Home-built Equipment

Amateur radio operators have the major opportunity of building their own radio equipment. We must make sure that any rules on modifying commercial radio equipment do not inhibit or outlaw amateur building of electronic and radio equipment.

In my opinion, the right to build one's own equipment is even more important than the right to modify commercially-built equipment. However, in actual amateur radio practice, the right-to-modify and the right-to-build go hand in hand enabling amateur radio operators to learn advanced radio technology and to build innovative new radio technology.

Amateur radio operators have been making their own equipment for over a century. They have been very successful with this and they should be encouraged to continue with it. My own interest in both making and modifying equipment is focused on inventing and developing

radios that are resistant to damage from electromagnetic pulse (EMP) events and solar geomagnetic storms.

Social Consequences of Blocking Experimenters and Inventors

If a situation arises where experimenters and inventors are blocked from working on and modifying electronics equipment, negative reactions will occur and the basic legitimacy of the Federal Government will sharply decline within a very dynamic set of citizens. This consequence would link up with the large number of conservatives who already believe that there are far too many governmental regulations. This would create a general atmosphere where it would be very difficult for the Commission to do its mainstream functions. I would not want to be the Commission Chairman who has to explain why inventors and experimenters are being suppressed in the nation of the Wright brothers, Lee de Forest, and Hiram Percy Maxim.

It would be preferable to leave amateur radio operators alone with their technological and experimental work. This work will continue to contribute new technology to the American economy.

Respectfully Submitted,

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Appendix A – My Patents and Document References

Some of my document references are listed below:

United States Patent 6,771,935, Wireless Bus August 3, 2004
United States Patent 3,280,929 Ground-Effect Machine October 25, 1966
United States Patent 3,280,930 Ground-Effect Vehicle October 25, 1966

"Demonstration and Development of Amateur Radio Applications of Natural Vacuum Electronics"; Nickolaus E. Leggett, N3NL - 22nd AMSAT Space Symposium and Annual Meeting October 8-10, 2004 in Arlington, Virginia

"A 'Lighthouse' Protocol for Random Microwave Contacts", Nickolaus E. Leggett, N3NL, QEX The Experimenter's Exchange – Technical Notes July/August 2004 – American Radio Relay League, Newington, CT.

Wireless bus invention – U.S. Patent # **6,771,935**

Abstract

In order to avoid mechanical assembly problems and transmission of undesired electrical currents among circuit cards or boards in a telecommunications switch or similar digital device, a conventional hard-wired midplane bus is replaced by a wireless bus. The wireless bus includes a radio frequency or light wave transceiver on each card. Antennas on respective cards can either be oriented within direct line-of-sight of each other, or can project into a waveguide which directs the transmitted signals past all the other antennas. For example, the waveguide may be a metal enclosure which surrounds all the cards. Alternatively, respective aligned apertures in the cards can define a continuous transmission path. A data rate exceeding 1 megabit per second and a transmission power on the order of 1 milliWatt are preferred, since the bus is intended for use within a single switch housing. Radio frequencies in the middle to high microwave range or light frequencies in the visible range are preferred for providing sufficient bandwidth and to facilitate servicing.

In compliance with Commission rules, I am sending a copy of this reply comment to the ARRL at the address below.

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